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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,745	09/24/2003	Robert J. Boisselle	1-15957	4502

1678 7590 12/18/2006  
MARSHALL & MELHORN  
FOUR SEAGATE, EIGHT FLOOR  
TOLEDO, OH 43604

EXAMINER
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LAZORCIK, JASON L

ART UNIT	PAPER NUMBER
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1731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/18/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/669,745

Applicant(s)

BOISSELLE ET AL.

Examiner

Jason L. Lazorcik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-4,6,8-16 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4,6,8-16, 19, and 21 is/are rejected.
- 7) ☐ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

Claim 20 is objected to because of the following informalities: The instant claim depends from a cancelled parent claim, as such said dependent claim will receive no further treatment on the merits. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3, 4, 9, 15, 16, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montonen (US 5,383,947) in view of Posney (US 3,595,636).

Specifically regarding claims 19 and 21, Montonen teaches a press bending mold comprising an upper, curved or "full-face" mold surface and a complimentary lower supporting ring mold or "annular mold". The reference clearly teaches the presence of

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"a narrow annular port (5)" or peripheral annular groove which is connected with a suction channel (7) or "to a negative pressure source (Column 1, Lines 52-64). As clearly depicted in the instant reference figure 2, the annular channel or "groove" is formed in a region corresponding to "the molding contact area where a glass sheet is pressed between the full-face mold and the annular mold".

With respect to the identified dependent claims, it asserted that since the source of negative pressure is a fan (8) simply running the fan in reverse would yield the claimed communication between the groove and a positive pressure source as set forth in Claim 3. Further as set forth in Claim 9, Montonen teaches the presence of a "porous mold structure in the surface (12) of the full face mold. This disclosure is read in the instant claim as providing additional flow channels and through-holes in the molding face of the full-face mold inside the area enclosed by the peripheral annular groove. Finally with respect to claims 15 and 16, Montonen teaches that the full-face mold can be constructed of "a ceramic mass" (Column 2, line 65) and that electrically resistive heating elements can be provided (Column 3, Lines 9-26) in order to heat the mold.

Montonen teaches a continuous groove or "slotted annular structure" but remains silent regarding the presence of a plurality of holes located within the annular groove. Posney teaches a structured mold having an apertured wall contoured to the desired shape of the bent glass sheet and having elongated, shallow grooves and a row of apertures contained therein for delivery of fluid under pressure to the surface of the glass sheet. With respect to the structure of the mold surface, Posney clearly sets forth that the recessed aperture structure in the disclosed mold is "less fragile than molds

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slotted throughout their entire thickness" (Column 2, Lines 63-69). Where the peripheral annular groove of the Montonen mold is understood to embody a structure "slotted through the entire thickness", it would have been obvious to adopt the aperture-in-groove structure taught by Posney. The modification of the Montonen structure to include holes or apertures within the annular groove would have been an obvious alteration to one of ordinary skill in the art at the time of the invention seeking to make the mold structure less fragile as taught by Posney. Under the combined teachings of Posney and Montonen, the holes would be connected together by the at least one peripheral annular groove as set forth in Claim 6.

Claims 6,8, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined prior art teachings of Montonen and Posney as applied to claims 19 and 21 above, and further in view of Yoshizawa (US 5,139,552).

Regarding Claims 6, 8, and 10-14, Montonen is silent regarding the dimensions of the annular groove, the location of the groove on the mold surface, and the presence and/or details of an air-permeable cover for the mold face. As set forth in the previous office action, Yoshizawa (US 5,139,552) lays out analogous art teachings directed to the bending of glass sheets with a structured mold surface. Specifically, the Yoshizawa mold contains a plurality of grooves defined within the mold surface and a plurality of inlet/outlet ports defined in each of the grooves. It would be reasonable for one of ordinary skill in the art at the time of the invention to have been fully aware of the

Yoshizawa teachings and to look to said teachings for further detail regarding the structure of glass sheet press bending molds.

As per the limitation set forth in applicants Claim 6, the Montonen Figure 2 clearly shows that the peripheral annular groove is set in from the outer edge of the glass sheet, however the instant reference provides no limitations upon the distance. Referring to the Yoshizawa reference (C3 L65-68), the "raised ridges or lands for contact with the glass sheet" as having a width X ranging from 0.5 mm to 10 mm. It is therefore understood from Figure 5 that "the groove" is arranged approximately 0.5 mm to 10 mm from the edge of the glass sheet. It would be reasonable for one of ordinary skill in the art at the time of the invention to arrange the Montonen peripheral annular groove set in from the outer edge of the sheet in accord with the Yoshizawa teachings. Since the range identified by Yoshizawa overlaps with the claimed limitation that said groove is arranged 5-20 mm from the outer edge of the glass, the claimed range is rendered prima facie obvious over the combined prior art teachings.

Similarly with respect to Claim 8, the Yoshizawa reference (C4 L1-3) clearly defines the dimensions of each of the grooves as having a width ranging from 2 mm to 15mm and a depth ranging from 1mm to 6mm. These disclosed ranges clearly read on the claimed depth and width of the grooves of between 4-6mm. Again, since Montonen is silent regarding groove dimensions and given the analogous nature of the Montonen and Yoshizawa teachings, it would have been an obvious choice to provide a peripheral annular groove in the Montonen mold having dimensions in the range as taught by Yoshizawa.

Regarding Claims 10 through 13 while Montonen is silent regarding application of a cover between the mold-face and the heated glass surface, Yoshizawa provides for multiple configurations of cloth acting as the glass contact surface. The mold covers here taught by Yoshizawa are a generally well appreciated in the art as a viable method of reduce marring of a softened glass sheet by a full-face mold in a press bending operation. The following teachings as set forth by Yoshizawa would for one of ordinary skill in the art seeking to minimize marring while bending softened glass sheets.

Therefore regarding claim 10, Yoshizawa (C4 L15-27) makes provisions for covering the molds in one or more layers of materials (See also Metallic sheet 15 and Surface member 16 in Figure 2). Further concerning claim 11, the cited passage indicates that the surface member should preferably be a woven or felt layer of glass fibers, ceramic fibers, carbon fibers, metallic fibers aramid fibers, or the like.

Yoshizawa also indicates with respect to claim 12 that "the metallic sheet 15 and surface member 16 may not be superposed, but are more effective when superposed". In Fig 5, it is also clearly implied that the surface contact member 15 has a finer structure than the metallic sheet 15. These two disclosures by Yoshizawa are collectively read on Claim 12 as covering the full face mold by two or more cloths lying one upon the other or "superposed", and whereby the cloth facing the glass (surface contact member 16) has a finer structure than the cloth next to the molding face (metallic sheet 15).

As described in the previous rejection of Claim 12, Yoshizawa makes provision for covering the molding face of the full-face mold by only one cloth in the statement that "the metallic sheet 15 and surface member 16 may not be superposed..."

Regarding claim 14, the immediate reference (C4 L24-27) indicates that the surface member can be one of either a woven or felt layer with a corresponding thickness ranging from 0.3mm to 0.5mm. This disclosure is understood to imply that the structure and the thickness of the cloth facing the glass sheet is adaptable and therefore can be adapted to the size of any impurity particle.

### ***Response to Arguments***

Applicant's arguments with respect to claims 2-4, 6, and 8-15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



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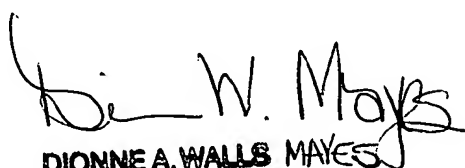
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Lazorcik whose telephone number is (571) 272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLL

  
DIONNE A. WALLS MAYES  
PRIMARY EXAMINER

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